

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. - 23. (Cancelled)

24. (Currently Amended) A spinal rod sleeve system comprising:

at least two bone engaging anchors;

at least one ~~substantially rigid~~ metallic longitudinal spinal rod that extends substantially along an axis located between the bone engaging anchors and a spinous process of the spine, wherein at least a portion of the rod is disposed within at least two sleeves, and wherein each of ~~said the~~ sleeves further comprises an internal bearing layer being made of UHMWPE and an external layer; and

at least one bumper disposed on the spinal rod between ~~said the~~ at least two sleeves, wherein in a flexion configuration a gap exists between the at least one bumper and at least one of the two sleeves, and in an extension configuration there is no gap between the at least one bumper at least one of the two sleeves.

25. (New) A motion preserving spinal implant system comprising:

a motion preserving implant including:

an implant longitudinal axis,

a rod portion,

a sleeve at least partially encircling the rod portion and slidably coupled to the rod portion to allow relative motion between the rod and the sleeve,

a dampener coupled to the rod to dampen excessive spinal extension movement,

a first bone anchor having a first longitudinal axis,

a second bone anchor having a second longitudinal axis coupled to the motion preserving implant,

an offset connector coupling the first bone anchor to the motion preserving implant such that the implant longitudinal axis does not intersect with the first longitudinal axis of the first bone anchor, and

a locking element adapted to secure the connector to the first bone anchor.

26. (New) The motion preserving spinal implant system of claim 25 further comprising a second offset connector coupling the second bone anchor to the motion preserving implant such that the implant longitudinal axis does not intersect with the second longitudinal axis of the second bone anchor.

27. (New) The motion preserving spinal implant system of claim 25 further comprising a second connector coupling the second bone anchor to the motion preserving implant such that the implant longitudinal axis intersects with the second longitudinal axis of the second bone anchor.

28. (New) The motion preserving spinal implant system of claim 25 wherein the first bone anchor and the second bone anchor are selected from the group consisting of pedicle screws, screws, wires, sublaminar wires, hooks, polyaxial screws or differentially locking polyaxial screws.

29. (New) The motion preserving spinal implant system of claim 25 wherein the offset connector has a slot to receive the motion preserving implant.

30. (New) The motion preserving spinal implant system of claim 25 further comprising:

a third bone anchor having a third longitudinal axis

a second motion preserving implant including:

a second implant longitudinal axis,

a second rod portion,

a second sleeve at least partially encircling the rod portion and slidably coupled to the rod portion to allow relative motion between the rod and the sleeve,

wherein the second motion preserving implant is coupled to the second bone anchor and to the third anchor, and

a second bumper coupled to the motion preserving implant to dampen excessive spinal extension movement.

31. (New) The motion preserving spinal implant system of claim 30 wherein the first bone anchor, the second bone anchor and the third bone anchor are selected from the group consisting of pedicle screws, screws, wires, sublaminar wires, hooks, polyaxial screws or differentially locking polyaxial screws.

32. (New) The motion preserving spinal implant system of claim 31 wherein both rod portions have an external bearing surface and both sleeves have an inner bearing surface such that the rod portions and the respective sleeves allow sliding between the external and internal bearing surfaces.

33. (New) The motion preserving spinal implant system of claim 32 wherein the sleeves are UHMWPE and the rods are metallic.

34. (New) A motion preserving spinal implant system comprising:
a first bone anchor having a first longitudinal axis,
a second bone anchor having a second longitudinal axis,
a motion preserving implant including:
an implant longitudinal axis,
a rod portion,
a sleeve at least partially encircling the rod portion and slidably coupled to the rod portion to allow relative motion between the rod and the sleeve,
wherein the sleeve acts as a bumper to dampen excessive spinal extension movement,
wherein the motion preserving implant is coupled to the first bone anchor and the second bone anchor,

an offset connector coupling the first bone anchor to the motion preserving implant in a polyaxial manner such that the implant longitudinal axis does not intersect with the first longitudinal axis of the first bone anchor, and

a locking element adapted to secure the connector to the first bone anchor.

35. (New) A vertebral anchor spinal rod sleeve system that aids to preserve range of motion following spinal surgery, comprising:

a first polyaxial pedicle screw having a center axis, a distal vertebral anchoring portion and a proximal portion;

a lateral offset rod connector coupled to the proximal portion of the first polyaxial pedicle screw;

a nut coupled to the offset connector and the first polyaxial pedicle screw;

a hard metallic rod having a second center axis that does not intersect the first center axis of the first polyaxial pedicle screw;

a first rod sleeve member coupled to the lateral offset member and having an external surface and an internal core that slidably receives the rod member;

a second polyaxial pedicle screw having a distal vertebral anchoring portion, a proximal portion, and a third center axis that intersects the second center axis of the metallic rod when the metallic rod is coupled to the second polyaxial anchor; and

at least one bumper coupled to the metallic rod located between the first and second polyaxial pedicle screws.

36. (New) A motion preserving spinal implant system comprising:

a first bone anchor having a first longitudinal axis

a second bone anchor having a second longitudinal axis,

a motion preserving implant having an implant longitudinal axis, wherein the motion preserving implant is coupled to the first bone anchor and the second bone anchor,

an offset connector coupling the first bone anchor to the motion preserving implant such that the implant longitudinal axis does not intersect with the first longitudinal axis of the first bone anchor, and

a locking element adapted to secure the connector to the first bone anchor.